

WHAT IS CLAIMED IS:

1. A liquid crystal display (LCD) device, comprising:

first and second substrates;

gate and data lines crossing each other on the first substrate to define a pixel region;

a common electrode on the second substrate;

a pixel electrode in the pixel region;

a dielectric protrusion on the common electrode corresponding to the periphery of the pixel electrode and having a portion crossing the pixel region; the dielectric protrusion crossing the pixel region dividing the pixel region into at least two regions;

electric field inducing windows in the pixel electrode in respective ones of the regions of the pixel region;

a common auxiliary electrode corresponding to the electric field inducing windows of the pixel electrode; and

a liquid crystal layer between the first and second substrates.
2. The device of claim 1, wherein the liquid crystal layer is undoped.
3. The device of claim 1, wherein the dielectric protrusion has a plurality of portions crossing the pixel region such that the pixel region has at least four regions, and wherein the electric field inducing windows are located in respective ones of the at least four regions, wherein two of the electric field inducing windows are substantially parallel to the gate line and two of the electric field inducing windows are substantially perpendicular to the gate line.

4. The device of claim 1, wherein one of the electric field inducing windows is substantially parallel to the gate line and another of the electric field inducing windows is substantially perpendicular to the gate line.
5. The device of claim 4, wherein the pixel region has a splay alignment.
6. The device of claim 1, wherein the electric field inducing windows are diagonally formed in the regions of the pixel region not to be parallel with each other.
7. The device of claim 6, wherein the lower and upper substrates are oriented at about 0° and about 90° in the pixel region.
8. The device of claim 1, wherein an elastic coefficient of the liquid crystal layer is greater at about 10% as compared with that of a liquid crystal having a positive dielectric anisotropy.
9. The device of claim 1, further comprising first and second alignment layers on the first and second substrates, the first and second alignment layers having a pretilt angle of about 1° or less.
10. The device of claim 1, wherein the common auxiliary electrode is at the same layer as the gate.
11. The device of claim 1, wherein the common auxiliary electrode is in the same layer as the data line.

12. The device of claim 1, wherein the dielectric protrusion overlaps a portion of the pixel electrode.
13. The device of claim 1, further comprising a passivation layer below the pixel electrode.
14. The device of claim 13, wherein the passivation layer is formed of one of Benzocyclobutene (BCB) or photoacryl.
15. The device of claim 1, wherein an additional electric field inducing window is formed in the common electrode.
16. The device of claim 1, further comprising additional dielectric protrusions on the second substrate corresponding to the electric field inducing windows.
17. A liquid crystal display (LCD) device, comprising:
 - first and second substrates;
 - gate and data lines crossing each other on the first substrate to define a pixel region;
 - a pixel electrode in the pixel region;
 - a common electrode on the second substrate;
 - a common auxiliary electrode in the pixel region corresponding the periphery of the pixel region and having a portion crossing the pixel region, the portion of the common auxiliary electrode crossing the pixel region dividing the pixel region into at least two regions;
 - dielectric protrusions on the common electrode in respective ones of the regions of the pixel region; and
 - a liquid crystal layer between the first and second substrates.

18. The device of claim 17, wherein the liquid crystal layer is undoped.
19. The device of claim 17, wherein the common auxiliary electrode has a plurality of portions crossing the pixel region such that the pixel region has at least four regions, and wherein dielectric protrusions are located in respective ones of the at least four regions wherein two of the dielectric protrusions are substantially parallel to the gate line and two of the dielectric protrusions are substantially perpendicular to the gate line.
20. The device of claim 16, wherein one of the dielectric protrusions is substantially parallel to the gate line and another of the dielectric protrusions is substantially perpendicular to the gate line.
21. The device of claim 20, wherein the pixel region has a splay alignment.
22. The device of claim 17, wherein the dielectric protrusions are diagonally formed in the regions of the pixel region not to be parallel with each other.
23. The device of claim 22, wherein the lower and upper substrates are oriented at about 0° and about 90° in the pixel region.
24. The device of claim 17, electric field inducing windows are formed in the common electrodes.
25. The device of claim 24, wherein the electric field inducing windows correspond to the dielectric protrusions.

26. The device of claim 17, wherein the common auxiliary electrode is overlapped with adjacent gate and data lines.